



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 2

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Via Email

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Re: New Cassel/Hicksville Groundwater Contamination Superfund site ("Site")

Dear Sirs and Madam:

I am writing to respond to various communications sent to Peter D. Lopez, the U.S. Environmental Protection Agency ("EPA") Region 2 Regional Administrator, regarding the above-referenced Site. Among those communications were an April 24, 2020 letter and the attachment thereto, from Arthur Sanders, a principal of Next Millennium Realty, LLC and 101 Frost Street Associates (collectively referred to as the "Frost Street Parties"), technical memoranda submitted to EPA in September 2019 by certain parties, including the Frost Street Parties, alleged to be associated with the eastern plume of operable unit 1 ("OU1") at the Site (the "Eastern Plume Parties"), emails that were sent by various counsel, including Mr. Sanders' attorney, Kevin Maldonado, and Phillip Landrigan and Suzanne Aveno, counsel for certain parties alleged to be associated with the central plume of OU1 at the Site (the

“Central Plume Parties”), including, most recently, a June 22, 2020 email and accompanying technical memorandum from Mr. Landrigan (“ERM Memo”), all of which were emailed either directly to Mr. Lopez or on which he was copied. After consultation with Regional Administrator Lopez, I am responding on behalf of EPA.

In his letter, Mr. Sanders, seeks to discuss with EPA, among other things, different approaches to the selection and implementation of response actions at the Site in EPA’s OU1 and operable unit three (“OU3”). He asserts that his proposed approaches build on the remedial activities that have been and continue to be performed, under New York State Department of Environmental Conservation (“NYSDEC”) authority, at the Frost Street Parties’ properties in the New Cassel Industrial Area (“NCIA”), which is upgradient of EPA’s OU1 and OU3. In making this request, Mr. Sanders seeks, in part, EPA’s acknowledgment that adjustments are appropriate to EPA’s OU1 selected remedy (“OU1 Remedy”) in light of changes allowed by NYSDEC to its selected remedy to address contaminants upgradient of OU1, in the NCIA. Those NYSDEC-approved changes, among other things, allow for pumping and direct discharge of contaminated groundwater to the local publicly-owned treatment works (“POTW”) facility as a way to address the source of the groundwater contamination at the Frost Street Parties’ properties in the NCIA. Mr. Sanders further asserts that this change to the NYSDEC source control remedy for the NCIA area warrants a corresponding change to EPA’s selected remedy for OU1 and impacts the yet-to-be-selected remedy for EPA’s OU3 at the Site.

The technical memorandum issued by Environmental Resources Management (“ERM”), dated June 19, 2020 (“ERM Memo”), and submitted by Phillip Landrigan by email dated June 22, 2020 on behalf of the Central Plume Parties, requests that EPA reconsider the scope of work required to be performed under the preliminary design investigation (“PDI”) and, similar to Mr. Sanders, requests changes to the OU1 Remedy, specifically with respect to the use of in-well vapor stripping and direct discharge to the POTW facility.

By way of background, after considering NYSDEC’s data and remedial efforts in the NCIA, as well as in the area of groundwater contamination downgradient of the NCIA (identified by EPA as OU1), EPA issued the OU1 Record of Decision (“OU1 ROD”) in 2013 that selected the OU1 Remedy. EPA and various potentially responsible parties (“PRPs”) then spent many years trying to negotiate an acceptable settlement agreement, initially with the goal of addressing both the remedial design of the OU1 Remedy and the performance of a remedial investigation/feasibility study (“RI/FS”) for OU3. When those negotiations did not succeed, EPA then sought an agreement for just the remedial design of the OU1 Remedy once EPA decided to perform the OU3 RI/FS work itself. After further unsuccessful negotiations, EPA ultimately issued an administrative order (“UAO”) for the remedial design of the OU1 Remedy that directed its recipients to, among other things, perform an extensive PDI. The UAO became effective on May 17, 2018.

Because those parties associated with the contamination in the westernmost of three plumes (“Western Plume Parties”) within OU1 refused to comply with the UAO, EPA informed the other, complying parties associated with the Eastern and Central plumes that EPA would perform certain initial PDI activities that would otherwise have required extensive coordination among all the UAO recipients. This initial work is referred to as the first PDI directive (“PDI Directive 1”). EPA has completed round 1 of the PDI Directive 1 field work and is currently preparing the associated technical memorandum. Upon completion of that PDI Directive 1 field work, EPA informed counsel for the Eastern Plume Parties and the Central Plume Parties that their clients should commence the work required of them

under the UAO, beginning with the preparation and submittal of certain deliverables in advance of starting work on the second task of the PDI, referred to as PDI Directive 2 (including monitoring well installation). Mr. Sanders' letter was written shortly after the Eastern Plume Parties and the Central Plume Parties received this direction from EPA.

EPA remains satisfied that the OU1 Remedy as selected is the proper response action, but is open to new information that would lead to a refinement of the conceptual design identified in the OU1 ROD for cost estimating and planning purposes. For the reasons more specifically set forth below, the additional information to be obtained during the PDI is necessary before EPA could evaluate whether any changes to components of the OU1 Remedy as proposed in Mr. Sanders' correspondence are appropriate. The information submitted by the Frost Street Parties with Mr. Sanders' letter is not, in and of itself, sufficient to support a change to the OU1 Remedy. Furthermore, as for Mr. Sanders' suggestions concerning a future, yet-to-be-selected OU3 Remedy, federal regulations establish a process for selecting a remedy; prior to formally selecting a remedy for OU3, EPA must complete the RI/FS, propose a remedial alternative, and accept and consider public comment.

Similarly, as discussed below, EPA does not agree that sufficient data exists to revise the scope of work required by the PDI or revise the OU1 Remedy as requested in the ERM Memo.

Mr. Sanders articulates four reasons in his letter that he indicates are illustrative of the need for a reevaluation of the OU1 Remedy and a basis to circumvent EPA's investigation of OU3. In the ERM Memo the consultant also identifies three main points regarding the OU1 Remedy and the PDI Work Plan. Below are EPA's responses to the points raised both by Mr. Sanders' letter and attachment and in the ERM Memo.

1. *Comments regarding the use of specific technologies in the OU1 Remedy (i.e., ISCO, In Well Vapor Stripping, Groundwater Extraction and Treatment).*

The OU1 Remedy allows for the treatment of the contaminated groundwater in any of three ways, or a combination thereof. These include the use of in-well vapor stripping, extraction and on-Site treatment, and/or in-situ chemical treatment such as in-situ chemical oxidation ("ISCO"). As outlined in the scope of work ("SOW") and PDI Work Plan, the approach or approaches to be utilized would be evaluated during the implementation of the PDI. For cost-estimating and planning purposes, during the OU1 remedy selection process, the following assumptions were made: in-well vapor stripping was identified for areas where concentrations of total volatile organic compounds ("VOCs") are greater than 100 parts per billion ("ppb") but less than 1,000 ppb; groundwater extraction and treatment was identified for areas with concentrations of total VOCs greater than 1,000 ppb but less than 10,000 ppb; and in-situ chemical treatment, such as ISCO, was identified for areas with total VOC concentrations above 10,000 ppb.

In the OU1 ROD, EPA does **not require** that all three technologies be utilized as part of the remediation nor does it require that any one technology be utilized in any plume or portion of a plume with a specific concentration range. Rather, as mentioned above, EPA contemplated in its OU1 Remedy that it would determine during the remedial design which of the three technologies, or combination thereof, would be pursued in each of the three plumes. Thus, in response to Mr. Sanders' letter, if concentrations that might otherwise warrant the evaluation of ISCO are no longer present, the OU1 Remedy and the related PDI work plan provide the flexibility not to include ISCO for the respective plumes. Alternatively, if

VOC concentrations that are below 10,000 ppb are present and there is a belief that there could be a benefit to pursuing the use of ISCO in these areas, there is flexibility to evaluate the further use of this technology. Mr. Sanders and his representatives were informed of this flexibility, including through the SOW and PDI Work Plan that are incorporated into the UAO, and these documents were the subject of lengthy discussions during the failed negotiations prior to the issuance of the UAO.

The ERM Memo similarly mischaracterizes EPA's OU1 Remedy by stating that in-well vapor stripping is a required component of the required remedial action for the Central Plume. As discussed above, flexibility is clearly set forth in the PDI Work Plan and the SOW, and as stated by EPA during numerous discussions with PRP counsel, in-well vapor stripping is not required as the remedial action for the Central Plume but was identified in the OU1 ROD for cost estimating and planning purposes. Rather, when PDI Directives 1 and 2 are complete, in accordance with Section 3.1(b)(2)(v) of the UAO's SOW, a PDI Recommendations Report shall be submitted to EPA that shall include recommendations as to which of the PDI Directives 3, 4, and/or 5 will be implemented by each of the plume groups. The SOW also calls for an in-person meeting (subject to COVID-19 restrictions) to present the PDI Recommendations Report to EPA. Subsequent to the submission of the PDI Recommendations Report and the in-person meeting, a determination will be made as to which PDI Directive(s) to pursue. Therefore, if the Central Plume group proposes extraction as the remedial action to address the conditions rather than in-well vapor stripping, they can seek to move forward with PDI Directive 3 and not PDI Directive 4. While EPA is the final arbiter of the treatment approach, if the data support the basis for the Central Plume Parties' recommendation, EPA would likely agree with the Central Plume Parties' choice of technology to pursue.

In addition, regarding ERM's argument that natural bio-degradation is occurring at the Site, while the data collected by EPA in 2019 indicates that some attenuation is occurring, the data is insufficient to change EPA's evaluation of the natural attenuation alternative in the EPA OU1 Record of Decision.

2. Discharge Options for Extracted Groundwater

The OU1 Remedy calls for treatment of extracted groundwater prior to discharge to a POTW facility or reinjection to groundwater. Despite Mr. Sanders' assertion that the Eastern Plume Parties have successfully demonstrated the viability and effectiveness of a pump and discharge approach, without any treatment, and despite ERM's statement that Nassau County Department of Public Works has verified that it has the capacity to accept both short-term and long-term discharges, neither Mr. Sanders nor ERM provide sufficient information to justify such a change at this time for the following reasons: the PDI work plan includes a task that calls for the evaluation of one of four discharge options if groundwater extraction and treatment is employed. The options include (1) the use of infiltration wells in recharge basin #51, (2) the use of infiltration wells in an alternative nearby location, (3) discharge of treated groundwater through a connection to the Nassau County sanitary sewer system (and ultimately to the POTW facility), and/or (4) another alternative discharge approach proposed by either plume group.

Because neither the total volume of groundwater that will need to be addressed nor the capacity that the POTW facility can accept are known yet, and because recharge basin #51 may be the only recharge basin in the immediate area with the necessary capacity, EPA believes it is prudent to evaluate the discharge options for the entire OU1 Remedy holistically, rather than making a determination for one of the three plumes before the PDI is completed for all three plumes within OU1.

As mentioned above, in 2017, New York State provided approval for the Frost Street Parties to discharge extracted groundwater from a treatment system that they are operating under the direction of the NYSDEC directly to the POTW facility without prior treatment. It should be noted, however, that at many other sites on Long Island, NYSDEC has determined that the extracted groundwater is a natural resource and should be discharged to basins or otherwise re-injected to the aquifer to recharge Long Island's sole source aquifer. Water processed through the POTW facility is ultimately discharged to the ocean, which can result in a diminution of the aquifer's capacity. Additionally, notwithstanding NYSDEC's approval of the direct, untreated discharge from the Frost Street Parties' three groundwater extraction wells upgradient of OU1, an evaluation will be performed during the PDI to determine the POTW facility's capacity. As noted above, the PDI process will provide a better understanding of the actual volume of water that will need to be extracted and discharged from each of the three plumes. It was estimated in the OU1 ROD that 350 gallons per minute would be extracted to meet the remedial action objectives, and if that amount of a discharge is sent to a POTW facility, as suggested in Mr. Sander's letter and the ERM Memo, over a half a million gallons of groundwater a day would be ultimately discharged to the ocean.

Any decision regarding the discharge of *untreated* groundwater directly to the POTW facility would constitute a modification to the OU1 Remedy. Such a decision to change the OU1 Remedy requires a detailed evaluation to be performed under the PDI, as outlined above, and any decision by EPA to change the OU1 Remedy would be consistent with the National Contingency Plan (the Superfund program's federal regulations) and EPA guidance for remedy modification.

3. Data Gaps to Complete the OU1 Remedial Design and the OU3 Remedial Investigation

The PDI work plan includes a table identifying the data gaps that need to be addressed through the installation of each of the identified groundwater monitoring wells (as set forth in in the PDI Directive 2). During the prolonged, unsuccessful negotiations, EPA informed the UAO recipients that EPA would be amenable to adjusting the well locations or the number of wells if it could be demonstrated that the data gaps could be addressed by wells in other locations, or with fewer wells, or that they have already been addressed with additional data collected during the PDI. EPA has reviewed the technical memoranda submitted with Mr. Sanders' April 24, 2020 letter, the technical memoranda provided to EPA subsequent to the September 10, 2019 meeting, dated August 10, 2018 and September 23, 2019, as well as the June 19, 2020 ERM Memo. EPA is not persuaded that implementation of the PDI Work Plan is no longer necessary. However, EPA remains amenable to modifying the locations of the required wells within OU1 at a later date, if the circumstances at a particular well location warrant reconsideration or data collected as part of the PDI address the data gaps.

The above-referenced August 10, 2018 technical memorandum presents the results of the pumping test performed at the Frost Street Parties' properties in support of the upgradient groundwater extraction remedy in operation by the Frost Street Parties under the direction of NYSDEC. That technical memorandum includes the results of a hypothetical model that simulated water levels and capture zones based on particle tracking analysis. The results of this model were used by the Frost Street Parties to propose to NYSDEC a reduction of the pumping rates from these extraction wells. Based on the analysis of the pump test data and subsequent groundwater model, EnSafe, a contractor for the Frost Street Parties, asserts that the design pumping rates yield a much larger capture zone than required to achieve contaminant capture as part of the action being performed under the direction of NYSDEC. While EPA coordinates closely with NYSDEC, EPA defers to NYSDEC with respect to an interpretation of the data related to actions performed under its authority. EPA's review of the

information provided in that memorandum as it pertains to the OU1 Remedy indicates that the model's simulated capture zones are over-estimated, extend beyond the model domain, and are not fully supported by observed data points.

In the September 23, 2019 groundwater monitoring report, its authors state that the air sparge/soil vapor extraction and groundwater extraction systems that are operated under NYSDEC oversight (upgradient to OU1) are removing VOC contamination effectively. However, as discussed further below, sampling conducted by EPA in 2019 confirmed ongoing VOC concentrations well above the Site remediation goals in numerous locations with total VOC concentrations in OU1 as high as 8,850 ppb. Therefore, EPA does not agree with the assertion that OU1 is being sufficiently remediated by the two existing remedial systems at the upgradient Frost Street Parties' properties, as stated in the April 24, 2020 technical memorandum.

The April 24, 2020 technical memorandum includes a recommendation to change the OU1 remedial approach, including implementing a non-time-critical removal action for OU3, discussed in more detail below. In short, the one extraction well cluster installed as part of the action taken under NYSDEC direction upgradient of OU1 is not anticipated to be sufficient to address the entire extent of the Eastern Plume in EPA's OU1. The OU1 Remedy addresses groundwater contamination in OU1, regardless of the depth at which it is present. It is EPA's understanding that the two Bowling Green public drinking water supply wells, located in OU1, are currently not in operation as a result of the impact of VOC contamination. These supply wells are screened at depths of approximately 450 feet below ground surface ("bgs"). To date, limited data has been collected from the Eastern Plume at depths greater than 250 feet bgs. For example, the borehole drilled by the Frost Street Parties in 2017 as part of the Frost Street Parties' work performed under NYSDEC direction was drilled to a depth of 245 feet bgs.

In contrast, the PDI work plan for OU1 identifies a group of groundwater profile borings to be advanced to a depth of approximately 460 feet bgs. For the above reasons, the work proposed in Mr. Sander's letter and the April 24, 2020 technical memorandum does not address all the data needs for a full evaluation of the OU1 conditions to depth in the Eastern Plume as required by EPA's OU1 Remedy. EPA's rationale as to why a non-time critical removal action is not appropriate for OU3 is outlined in the response below.

4. Impact of Existing Upgradient Actions Performed Under NYSDEC Oversight and Performance of a Non-Time Critical Removal Action for Downgradient OU3

EPA has previously and consistently indicated that the number and location of the extraction wells as depicted in EPA's conceptual site model that are laid out in the OU1 Remedy are subject to modification, based on the results of the PDI. As stated in the OU1 ROD, EPA relied upon the assumption that the ongoing upgradient response activities to address sources at the various NCIA facilities would be successfully implemented. This was a pre-condition when evaluating the potential for attaining the objectives of the OU1 Remedy. EPA has obtained samples in 2019 from the existing groundwater monitoring wells in the Eastern Plume that have revealed a decrease in concentrations of contaminants, but notwithstanding the decrease, total VOC concentrations nevertheless remain as high as 8,850 ppb and in some instances, increased (*e.g.*, in MW-17D). Considering that the OU1 Remedy requires active treatment of groundwater contamination exceeding concentrations of 100 ppb and that data gaps prevent the design of a remedy to address the full vertical and horizontal extent of existing contamination, the PDI is still warranted.

In July 2014, EPA provided notice to the PRPs of their potential liability for OU3 (which is further downgradient of OU1). As mentioned above, EPA attempted to negotiate an agreement for the performance of an RI/FS by the PRPs. After unsuccessful negotiations, EPA initiated that investigation using federal funds. EPA's RI of OU3 is on-going. Sampling data from groundwater monitoring wells installed as part of the OU3 investigation have revealed total VOC concentrations as high as 7,400 ppb in locations downgradient of the Eastern Plume (e.g., at OU3-B03S at 380 feet bgs). Therefore, the Frost Street Parties' proposed expansion of the existing system to be installed in what it believes is the "toe" of the Eastern Plume, or its furthest extent, is not possible at this time considering that the "furthest extent" has not been delineated and the RI/FS process remains ongoing.

The April 24, 2020 EnSafe memorandum also suggests that a remedy for OU3 should be performed as a non-time-critical removal action. This proposal, if accepted, would presumably obviate the need for the completion of the OU3 RI/FS and would supposedly result in proceeding immediately to the performance of a response action that would permanently address conditions present at OU3. Typically, removal actions are shorter-term, less complex emergent actions to stabilize a site. Contaminated groundwater plumes are not customarily addressed by removal actions, especially at the more complex National Priority List sites, such as this. CERCLA and the National Contingency Plan contain specific requirements that must be followed for both remedial actions and removal actions. For numerous reasons, including that upgradient source control is already underway at the various NCLIA properties under NYSDEC oversight, EPA does not believe a non-time critical removal action is appropriate at this time to address the conditions at OU3 comprehensively. In addition, because they are more emergent in nature and not a final response at complicated sites, removal actions do not generally include the same level of public engagement as remedial actions, there is not the same scrutiny of cleanup alternatives as would be performed in a feasibility study supporting the selection of a remedial action, there is not as rigorous a risk assessment performed with removal actions, and removal actions are only required to comply with applicable or relevant and appropriate requirements to the extent practicable.

In sum, for the reasons discussed above, it is premature to consider a change to the OU1 Remedy as it pertains to the Eastern Plume. Before EPA could consider modifying the OU1 Remedy, at a minimum EPA would require the following: (1) the performance of PDI Directive 2 (groundwater profiling and the installation of the additional monitoring wells) and the submittal of the PDI Directive 2 Technical Memorandum; (2) performance of the second round of sampling of all of the OU1 wells, including all newly installed wells (PDI Directive 1, Round 2 - to be performed by EPA) and the issuance by EPA of the PDI Directive 1 Technical Memorandum Addendum; and (3) submittal and presentation of the PDI Recommendations Report. The PDI Recommendations Report will provide the basis for recommending which of the PDI Directives (or a combination of PDI Directives) will be pursued, whether it be #3 (groundwater extraction well installation and/or aquifer testing and groundwater extraction effluent system evaluation), #4 (in-well vapor stripping pilot system installation and testing), and/or #5 (ISCO pilot system installation and testing).

Furthermore, EPA cannot select a remedy for OU3 until, as stated previously, the RI/FS is completed. At that time, EPA will issue a proposed plan, the public will have an opportunity to comment, and a remedy will then be selected.

The supporting deliverables identified in Section 5.7 of the UAO's amended SOW must be submitted within 45 days of the date of this letter. Upon approval of these deliverables, your clients will be required to begin to implement PDI Directive 2. In his May 7, 2020 email, Mr. Landrigan implied that there is no need for his clients to submit the supporting deliverables because he felt that EPA had already prepared such documents for its PDI Directive 1 Round 1 field work. Please note that the

required deliverables are unique documents. For example, your contractor will have to identify its health and safety measures for the Health and Safety Plan, as well as the laboratories it will utilize for the project, to include in the Quality Assurance Project Plan (“QAPP”). Additionally, your clients should begin to submit progress reports in accordance with Section 4.1 of the SOW by the 15th day of the month following the date of this letter.

If your clients still wish to meet with EPA, please have your Project Coordinator contact Julio Vazquez at 212-637-4323, and we will schedule a meeting. Please note that EPA expects that your clients will begin the PDI work as discussed above, and any such meeting will not provide a basis for an extension in the performance of that work.

Sincerely,

Pat Evangelista, Director
Superfund and Emergency Management Division

cc: Peter D. Lopez, Regional Administrator